THE VETERINARY RECORD

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888

No. 28. JULY 15, 1950 VOL. 62.

THE TECHNIQUE OF EXCHANGE TRANSFUSION IN THE NEW-BORN FOAL

BY

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INTRODUCTION

In response to many enquiries from interested members of the veterinary profession and others we are publishing this preliminary note on the technique of exchange transfusion in the newly born foal.

Exchange transfusion has been performed during the past two foaling seasons and the technique to be described is that which has been evolved by us at this station and which has been perfected during the present year. The use of this technique has simplified the operation of replacement transfusion to such an extent that we feel that this operation can now be undertaken with safety in general practice.

INDICATION

Haemolytic disease in foals, the result of a heterospecific pregnancy and iso-immunisation of the dam during pregnancy.

APPARATUS REQUIRED

(*a*) At least six sterile standard blood transfusion bottles each containing 120 ml. glucose-citrate anticoagulant solution and 420 ml. compatible donor's blood.

(*b*) Rubber bung to fit (*a*) carrying long and short glass tubes, the short tube to be fitted with a wire gauze filter cap.

(*c*) 6 to 8 feet of rubber tubing fitted with a glass drip chamber. A screw clip is required on the tubing below the drip chamber to regulate the bloodflow.

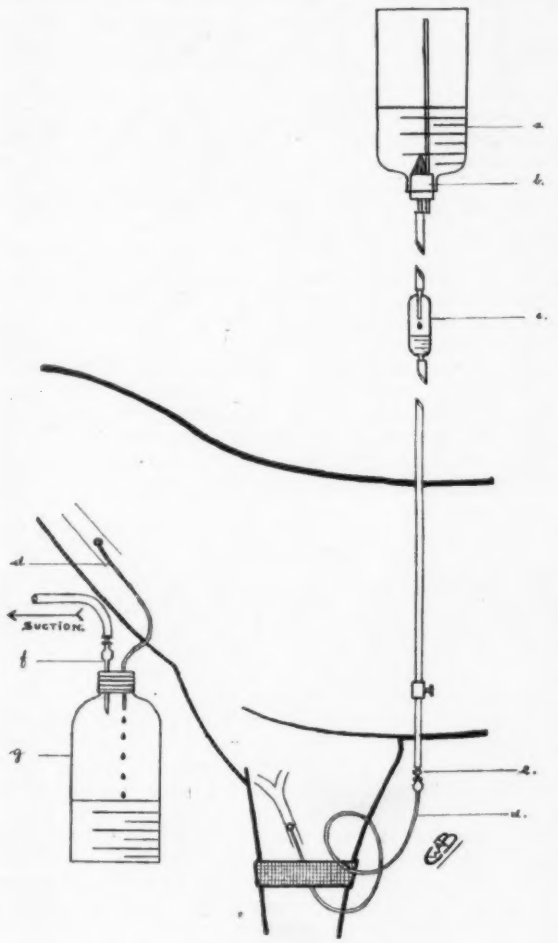
(*d*) Two polythene catheters, 12 inches in length having a bore of 1·0 mm. and a wall thickness of 0·25 mm.

(*e*) A standard male adaptor at the end of the rubber tubing to which a 19 B.W.G. hypodermic needle is attached. This needle fits into one of the polythene catheters.

(*f*) A 13 B.W.G. hypodermic needle, 2 inches in length, through which the polythene catheter can be passed with ease.

(*g*) Two standard blood transfusion bottles fitted with rubber washers and screw caps. The screw caps carry two perforations.

The drawing illustrates diagrammatically the apparatus assembled and in use.



CONTROL

For operation, the foal is placed on a table which is padded and covered by a rug. The foal is placed on its right side with the left foreleg extended forwards, the right foreleg straight down and both hind limbs pulled backwards. The limbs are held firmly by assistants or strapped down with soft straps.

SITE

The two veins used are the V. jugularis and the V. cephalica antibrachii (internal subcutaneous vein of the forearm). The V. cephalica antibrachii is used for the introduction of donor blood and exsanguination is carried out via the jugular vein. The vena cephalica antibrachii ascends subcutaneously on the inner side of the forearm in company with a branch of the musculo-cutaneous nerve. At its lower portion it is in that groove between the radius and the M. flexor metacarpi radialis, *i.e.*, behind the border of the radius, but as it ascends it crosses the inner aspect of the radius very obliquely upwards and forwards to reach a point just below the insertion of the biceps muscle where it divides, one branch forming the V.

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† In receipt of a grant from the South African Jockey Club and Thoroughbred Breeders' Association.
‡ In receipt of a grant from the Racing Board.

cephalica humeri which joins the V. jugularis and the other branch joining the V. mediana.

Transfusion

The medial aspect of the right forearm is shaved and disinfected. The vein is brought into prominence by the application of a tourniquet above the elbow. The 13 B.W.G. needle is inserted into the vein and the polythene catheter passed through it into the vein. The needle is then withdrawn, leaving the catheter in position. The tourniquet is released and the catheter pushed in for at least 4 inches. It is very desirable to introduce the catheter into the V. cephalica humeri rather than into the communicating branch to the V. mediana. The foal, lying on its right side, is inclined to compress the V. brachialis between the humerus and the thoracic wall and this may cause an obstacle to the free flow of blood and impede the transfusion.

The assembled blood transfusion apparatus is now connected to the polythene catheter by introducing the 19 B.W.G. needle into the lumen of the catheter. The catheter may be maintained in a fixed position by applying an adhesive bandage around it and the forearm about 1 to 2 inches distal to the point of insertion. The bandage cannot be applied at the actual site of insertion as it causes some venous compression with resultant unsightly haematoma formation and oozing of blood through the cutaneous puncture. The blood-flow is now regulated by means of the screw clip to about 80 to 180 drops per minute depending upon the condition of the patient.

Exsanguination

The left jugular area is prepared and the vein brought up by digital compression. A 13 B.W.G. needle is inserted in a cranial direction and the polythene catheter passed. At east 4 inches of its length is passed into the vein and the needle is then withdrawn. The free end of this catheter is passed through the rubber washer of a screw cap by means of the 13 B.W.G. needle for a length of about 1 inch, the needle being then withdrawn. The screw cap is screwed tightly on to the bottle and the 13 B.W.G. needle with a short length of rubber tubing attached is inserted through the cap. A vacuum is now created in the bottle by direct suction on the tube by mouth or by connecting it to a water-operated filter pump. The volume of blood extracted from the jugular vein can now be controlled adequately and made to correspond with the volume of blood transfused in via the V. cephalica antibrachii throughout the operation.

Volumes Exchanged

In haemolytic disease of the new-born foal the red cell count drops from an average of from nine to eleven million per cu. mm. to about four million per cu. mm., and quite often to two million per cu. mm. In one case encountered this season the erythrocyte count fell to 960,000 per cu. mm. one hour before death. The red cell count is important, therefore, as a diagnostic guide. If the foal still has three million red cells per cu. mm. a transfusion of 2,000 ml. of compatible blood and the exsanguination of between 1,500 ml. and 1,800 ml. may be considered adequate. Where the anaemia is more advanced, up to 3,000 ml. of whole blood may be given and up to 2,500 ml. extracted.

The average time taken for the actual replacement transfusion is three hours. The transfusion rate adopted has been between 80 and 180 drops per minute and this must approximate the simultaneous exsanguination. This rate will avoid sudden overloading of the vascular system and cardiac collapse. Where a blood transfusion is given in cases of simple loss of blood, the result of haemorrhage from accident, etc., the rate of transfusion may be considerably speeded up to make up for lost red cells and volume.

Acknowledgments.—We wish to thank Dr. C. B. V. Walker, Director, Regional Transfusion Laboratory, Cambridge, for his help in constructing and supplying the apparatus to our specification. We are indebted to Messrs. A. H. Andrew, R. C. Crowhurst, F. T. Day, W. A. Gibbs, G. A. Hudson, G. H. Leader, G. Nixon and P. R. Turner, veterinary surgeons, for placing affected foals at our disposal.

SODIUM FLUORIDE: A DISCUSSION OF ITS USE IN THE TREATMENT OF ASCARIASIS IN PIGS

BY

G. C. BRANDER

Since the original work on sodium fluoride was reported in 1944, there have been many references to its use in America and Australia for the treatment of ascarids in pigs.

In America, workers have tended to use the drug as a percentage of the feed given, and their recommended dosage has been 1 per cent. of a dry meal. They recommend a dry meal to ensure slow intake of the drug, thus reducing danger of toxic absorption. The presence of moisture in the mixture both encourages the pig to eat the mash quickly and also leads to more rapid absorption of sodium fluoride. This method of giving the anthelmintic often means that a higher dose of sodium fluoride is placed before the pig than when the dose is computed according to the weight of the animal, but this is counteracted by the fact that the pig eats the dry meal slowly and therefore the intake of the drug is gradual. This is especially so in the case of large pigs which may be given 4 lbs. of meal. It is often found that it may take a full day for most of the meal to be eaten by pigs as the presence of the drug reduces the palatability of the meal, and there is always a percentage which is thrown on to the ground and not eaten. Despite this apparent waste of the drug, it is found that the pig obtains sufficient sodium fluoride to have a 96 per cent. anthelmintic effect against ascarids.

As far as one can judge from the American records, technical sodium fluoride has been used in all cases and this contains 95 to 99 per cent. sodium fluoride.

Roberts[1], in Australia, using 78 per cent. commercial sodium fluoride, preferred dosing pigs according to their weight, and he concluded that the optimum dose of sodium fluoride lay between 0·1 and 0·15 gramme of commercial sodium fluoride per lb. bodyweight. In his trials all the pigs were weighed, both when fed singly and in groups. A fact that he noted when observing the pigs was that the higher the dose rate, the slower the intake of the food, and it was noted that the pigs, when given a large dosage of sodium fluoride, ate only sufficient of the preparation to satisfy their immediate hunger. Where the drug is given in a wet mash, it should be at the lowest efficient dose, as otherwise the rapid intake may lead to the development of toxic symptoms.

In a general discussion on the use of sodium fluoride for the treatment of roundworms in pigs, Foster *et al*[2] discuss Roberts' work in Australia and point out that the chemical was fed with generally satisfactory results, and that although under his regimen the concentration of chemical in the feed is somewhat lower than 1 per cent., the amount of medicated feed consumed by the pigs is somewhat higher than that consumed when the chemical is fed at the 1 per cent. level.

When discussing feeds other than dry meal for medication

with sodium fluoride (such as milk, slop, swill and garbage) they pointed out that milk is the only substance which is of uniform composition which will be eaten by the pigs with some consistency. Other varied feeds will differ markedly in their palatability and attractiveness to the pigs.

When sodium fluoride was given in milk as 1 per cent. by weight, and despite the fact that consumption of medicated milk was only 15 per cent. of the total, all the pigs vomited and suffered discomfort.

When the drug was given in a mixture containing one part by weight of ground feed and two parts skim milk, it was found to be necessary to reduce the percentage of sodium fluoride in the mash to 0·33 per cent. to ensure safe dosage. This dosage represented rather less than 0·15 gramme per lb. of bodyweight.

Foster *et al.* conclude that pigs are quite tolerant of sodium fluoride but, unless the dose is very carefully computed according to bodyweight of individual pigs (according to the method of Roberts), the administration of the drug in any vehicle other than dry ground feed is likely to be unsatisfactory, from the standpoint of both safety and efficacy.

In the United Kingdom a considerable number of pigs have now been dosed on the 1 per cent. basis in dry meal and, in the writer's experience, there is sufficient evidence to show that, provided the instructions for dosage are adhered to, sodium fluoride is an effective and safe anthelmintic. Use of the drug has occasionally been accompanied by vomiting, and a few deaths have occurred, but investigations have shown that losses occurred only where the material was inadequately mixed, or given in the wrong type of vehicle, or the dose wrongly computed.

When this method is employed, it is important to explain its significance to the farmer who may, at dosing, be worried by the fact that only a quarter or half of the medicament has been consumed, and it is also important to insist that the correct amount of feed be given according to the size of the animal. Accidents may follow if the drug is given to big pigs in a small quantity of feed, or where a farmer adds water or swill to the meal when he finds that it has not been fully consumed by the pigs at the end of a day.

Conclusions

Sodium fluoride is an effective and safe anthelmintic for pigs provided it is used with a full understanding of dosage methods and the type of animals to be dosed. Two methods of giving the dose can be employed and both will give efficient anthelmintic effect:—

(1) The dose can be given as 1 per cent. of a dry meal fed to the pigs. In this method the pigs are fed in even groups of up to eight and are given the amount of dry meal that they would normally eat in a day.

This method has much to recommend it as the danger of absorption of sodium fluoride is reduced by the absence of fluid in the meal, and the only factors to be carefully supervised are the weight of the powders and the weight of the meal. The concentration of the drug used is sufficient to cause vomiting should the greedier pigs eat an excessive quantity of the meal. The best type of meal to be used for dosing is a finely ground meal into which sodium fluoride readily can be mixed.

(2) The dose can be given at the rate of 0·1 to 0·15 gramme commercial sodium fluoride per 1 lb. bodyweight. (Equivalent to 0·075 to 0·1 gramme technical sodium fluoride per 1 lb. bodyweight.) If the drug is to be given in a wet mash the minimum dose should be employed and the pigs *must* be weighed. It is not safe to depend on a pig-keeper's estimate of the weight of his pigs as even the most expert are often quite wrong in their guess. A weight variation of 10 or 15 lb. can make quite a difference to the dose given.

References

[1]Roberts, F. H. S. (1947.) *Aust. Vet. J.* **23.** 82.
[2]Foster, A. C., & Others. (1948.) *Amer. J. vet. Res.* **9.** 379.

CARDIFF AND ITS ENVIRONS

[Contributed]

Cardiff in the mind of strangers suffers from certain misconceptions. Being closely associated with the coal industry it is generally assumed that the dust and grime, which are necessary adjuncts of the industry, permeate the city and sully its beautiful buildings. It is also imagined that the city is modern or mushroom built. Whilst it is true that the very best steam- and household-coal is produced in the valleys north of Cardiff, the coal measures come to an end some 5 miles from the city. The docks with their inevitable coal-tips are situated at its extreme southern end and are separated from the shopping and residential parts by two bridges. The approach from the centre of the city to the docks area is made interesting by its polyglot shop names and the colourful apparel of the very cosmopolitan population of this district. Most of the foreign and seafaring element confine themselves to this area and are seldom seen in the city proper. The average Cardiffian, unassociated with docks business, rarely visits the docks district, except to partake of some of the rare dishes, such as chow maen, chop suey or minestrone, which are prepared by the Chinese, Indian and other restaurants. The consumption of coal in Cardiff for industrial purposes is very limited, and so the clear atmosphere which it enjoys permits the Portland stone of its public buildings to weather to a silveriness not often seen.

The town has profited both by its antiquity and rapid growth in the last century—100 years ago it numbered some 6,000 inhabitants, where now there are roughly a quarter of a million. Its comparatively modern growth enabled it to escape the evils so dangerously aggravated by the industrial revolution, and so profit by the sanitary and other reforms thereby forced on the community. Cardiff has plenty of open spaces and has planted most of the thoroughfares with trees. By good fortune it was able to purchase from Lord Bute, Cathays Park in the centre of the city, where has grown up the finest civic centre in the kingdom. The lay-out of these buildings, surrounded by parks and gardens, increasingly attracts the attention of all interested in the application of architecture to civic needs. Adjacent to this park stands Cardiff Castle with 400 acres of lands and gardens. The castle dates from the First Century A.D., when the Romans established their fort, and has been in almost continuous occupation. If the visitor enters from the drawbridge gateway in Duke Street, one of the main shopping streets, works may be seen covering a period of 20 centuries. The castle, lands and gardens were presented to the citizens of Cardiff in September, 1947, as an outright gift, for their use and enjoyment in perpetuity by John Crighton-Stuart, Marquis of Bute. The administration of the castle and grounds is now the responsibility of the Cardiff Corporation, the Marquis retaining for his private use one small portion known as the Black Tower. The castle is in good repair and the more modern residential portions will be used as a mansion house for the Lord Mayor and for lodging the Judges of Assize. A

College of Music and Dramatic Art also is to be established there.

The citizens of Cardiff are justly proud of their many fine parks and open spaces and recreation grounds which comprise an area of over 1,200 acres. Facilities are provided for all forms of outdoor recreation. Visitors are surprised to find such beauty spots adjoining the busy thoroughfares of the town yet seemingly far from them. Most popular of the open spaces is Roath Park, which covers an area of 102 acres. It comprises five distinct sections: Pleasure Garden, attractively laid out in lawns, flower beds and shrubberies, with several tennis courts and two bowling greens; Recreational Ground, devoted entirely to games, such as football, baseball and hockey; Botanical Section, with plants, trees and shrubs labelled for the convenience of students and those interested in botany; The Lake, 32 acres of water available for boating and swimming and re-stocked every year with trout for fishing; Wild Garden, which is preserved as natural woodland. All the parks have their individual attractions—the Wenallt, for example, is a delightful place for picnics and rambles, while from its highest point—750 feet above sea level—an extensive view of the city, Bristol Channel, and, on clear days, the distant Somerset coast, is obtained. Under private ownership there are two areas—Cardiff Arms Park and the Ninian Park. The first is used for various forms of sport, but is perhaps most famous for the first-class Rugby and cricket matches held there. It is well situated in the heart of the city on the banks of the River Taff. The second is the ground where Cardiff City Association Football Club play their home matches. This is situated about a mile and a half from the city centre and is well served by buses as well as trains from the General Station.

Of especial interest to visitors is Llandaff Cathedral, situated near the River Taff in the delightful old-world village of Llandaff, which is within 10 minutes by bus from the city centre. It can also be reached by trolley-bus to Llandaff Fields and thence by a mile walk through a great expanse of playing fields permeated by tar-mac roads.

It is commonly accepted that Llandaff Cathedral began as a religious community founded by St. Teilo in the sixth century. The community, organised on Celtic tribal lines as in Ireland, had its arch-monastery at Llandaff, with numerous "Llans" in various parts of South Wales. St. Teilo's tomb occupies a conspicuous position on the south side of the altar in the Cathedral. The Cathedral unfortunately was severely damaged by enemy action during the recent war, but services are still held in a temporarily renovated part.

A recent acquisition to the city is the sixteenth century St.

Law Courts. City Hall. National Museum of Wales.

By kind permission of the Development Department of the Cardiff Corporation.

The Technical College

By courtesy of Messrs. Ed. J. Burrow & Co., Ltd., Publishers, Cheltenham.

Assembly Room, City Hall

By courtesy of Messrs. Ed. J. Burrow & Co., Ltd., Publishers, Cheltenham.

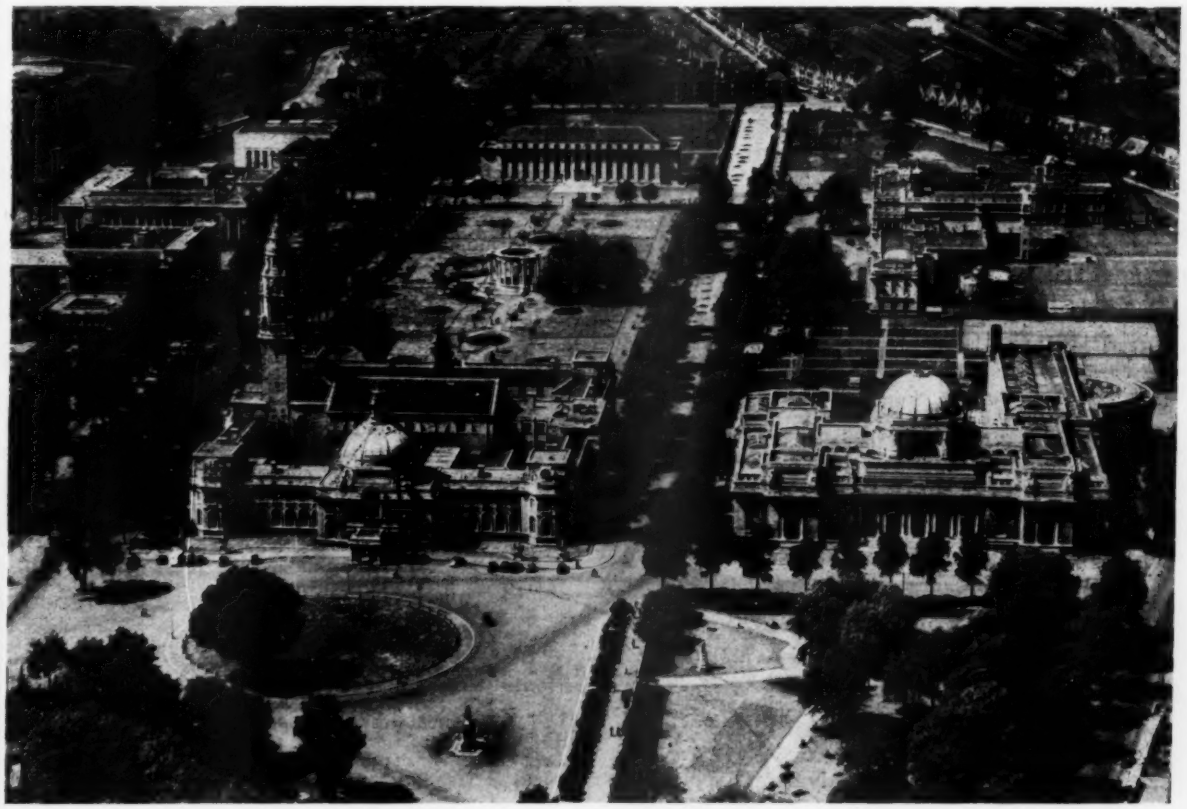
Fagan's Castle and grounds, given by the late Earl of Plymouth as a site for the National Welsh Folk Museum. It is situated on the western fringe of the city in the charming old village of St. Fagan's. The museum is now open to the public and is reached in about 15 minutes from the city centre. There are other castles within easy reach of Cardiff, including Castell Coch, romantically placed on a wooded hill overlooking the River Taff guarding the entrance to the gorge near Taff's Well. A little farther north is the striking medieval ruin of Caerphilly Castle, built upon a concentric plan, second only to Windsor Castle in size. The coast also was well fortified with castles and many remain perched above rocky bays. Some are moss-covered shells, whilst others have been restored and are now in daily use.

The name of Cardiff is inseparably associated with great docks and shipping. This is not to be wondered at, as the fame of Cardiff docks is world-wide, due to its pre-war renown as one of the most important coal exporting ports in the world, and lately for its efficient handling of the many and varied cargoes that the changing industries of South Wales have required.

Although there is abundant reason to believe that ships frequented the port in the days of the Roman occupation, or even before, the history of Cardiff docks as we know them to-day really begins in the year 1830, when the second Marquis of Bute obtained Parliamentary powers for the construction of a dock to cope with the ever increasing foreign trade of the port.

By reason of its geographical position Cardiff is most naturally placed to serve the South Wales and Midland areas. Large quantities of the country's food supplies are dealt with through these docks—live cattle, frozen meat, fruit, potatoes, colonial dairy produce, grain, flour, sugar, canned goods, and, in fact, practically every commodity in the list of necessities for feeding the community. Although in the past coal has dominated all else at the docks, of late years the shortage of "black diamonds" and the establishment of the various trading estates around Cardiff has led to the docks catering for a larger variety of cargoes. Also at the docks are to be found the great flour mills and granaries of Spillers, which company was founded in 1830 by one, Joel Spiller. He began sending cargoes of flour to Cardiff from Bridgwater across the Bristol Channel, and thence to Merthyr Tydfil in the valley north of Cardiff by pack mules. As the South Wales coalfields developed, the firm of Spillers and Brown was formed and the first flour mill in Cardiff opened.

The great undertakings of Guest, Keen & Baldwin's, Ltd., Iron and Steel Company, at the docks have a romantic history that commenced back in 1759 at Merthyr, where a partnership was formed with a purpose of "joint dealing in the Art, and Misterry and Occupation, and Business of Iron Manufacturers, and for that purpose to build a certain ffurnace or ffurnaces for the Smelting of Iron Oar." The Cardiff works were started in 1888 and it was then intended to transfer the whole of the Merthyr works to a new site at the dock-side. In 1934, £3,000,000 was



AERIAL VIEW OF CIVIC CENTRE
By courtesy of Messrs Terence Soames & Co., Ltd., Aerial & Industrial Photographers, Cardiff.

spent on remodelling the Cardiff plant, which is considered to be the most modern and economical type in operation in Great Britain.

Within a narrow radius of Cardiff is a wonderful tourist country, steeped in history and legend and rich in ruined castles and ancient churches, with a great variety of scenery. To the west there stretches a coastline of extensive sands and popular resorts, alternating with rocky, lonely headlands which are the exciting landmarks of steamers homeward bound. Penarth, which is the nearest of these resorts, is within 4 miles of the city centre. It is equipped with beautiful gardens and a recently reconstructed pier. Farther to the west, about 8 miles from Cardiff, is the ideal children's playground of Barry Island. With a magnificent sandy beach it is extremely safe for sea bathing. Within a short walk of the island is Cold Knapp with its sea-water swimming baths. Every few miles to the west of Barry one finds delightful coves and sandy bays until the well-known tourist centre of Porthcawl is reached. This resort is noted for its bracing air, vast expanse of flat sands and rugged coast, and, for the younger element, the fun-fair of Coney Beach. The coasts of Somerset and Devon, which are within view on clear days, can be reached by a service of paddle steamers from Cardiff. The most popular trip is to Weston-super-Mare, and takes about 45 minutes. Clevedon, Minehead and Ilfracombe are also served by these steamers. North of Cardiff and this varied coastline, the roads climb for mile after mile, up the winding river valleys, many of them marred with coal mines and heavy industries, right into the great mountains of South Wales. To the north-west through Merthyr Tydfil or Aberdare stand the twin summits of the Brecon Beacons. Pen-y-fan at 2,907 feet above sea level is the highest point in South Wales and Cor Du reaches 2,863 feet. Between the Brecon Beacons and the Black Mountains are four mighty summits of the Fforest Fawr range. Wild, impressive scenery of bold, massive summits with precipitous sides or green slopes offering scant herbage to the sturdy Welsh mountain sheep, and dark valleys cut by swift streams in deep-sided gorges and romantic glens—such is this awe-inspiring country behind industrial Wales.

Eastwards, towards England, is the broad channel of the Severn fed by the rivers Usk and Wye, famous for the unparalleled beauty of the valleys through which they wind, and guarded by the picturesque old towns. The Vale of Usk has the port of Newport and the Roman base of Caerleon at its mouth. The beauty of the Wye is softer and gentler. The river enters the Severn at Chepstow, where the ancient border town climbs up the riverside and the picturesque ruin of the fortress castle, strategically perched above the precipitous cliffs, stands sentinel against the English! The road from Chepstow to Monmouth passes through a lovely part of the Wye Valley wherein is situated the famous Tintern Abbey. The hotels in the valley cater admirably for the tourist who appreciates the delectable fresh Wye salmon.

These are mere indications of attractions around Cardiff, this year's N.V.M.A. Congress centre, where the members and their ladies will be welcomed warmly in September. The closest adherence to the business of the conference nevertheless will afford ample opportunity to enjoy them; car, bus, or train will take you quickly from the city into the town, village or castle of your choice, or right away beside stream or mountain into the solitude.

Croeso I. Caerdydd!

CLINICAL COMMUNICATION

FATAL INGESTION OF TIN-TACKS BY CHIMPANZEE

A. NOEL ORMROD, M.R.C.V.S.,

Woodchurch, Wirral

The subject of this case, a two-year-old female chimpanzee, was presented for examination with a history of complete anorexia and constipation of three days' duration.

Examination revealed a grossly distended abdomen with no detectable pain and no localised area of soreness. The temperature was slightly raised (100° F.), the eyes were clear, and the buccal mucosa was of a good colour. There had been no emesis, and no undue thirst. The patient was in fair bodily condition.

Enquiry from the keepers and owners, who were people of experience, elicited the information that the appetite had been extremely dainty since her purchase six months previously, that the abdomen had always been somewhat rotund but that her spirits had been good and that she was normally playful and active. She had never before given cause for serious alarm although they had some time previously sought an opinion from a member of the medical profession regarding the enlarged abdomen. They were advised to ignore the abnormality.

An enema was administered, but the results were negligible, so a laxative was then prescribed.

On the following day there was little change and she was brought to my surgery for X-ray examination. This showed the presence of three tin-tacks in the abdomen and immediate laparotomy was decided upon.

Using a suitable vein in the forearm, nembutal was injected cautiously until a stage of deep narcosis was reached. Anaesthesia was completed by ether and oxygen. The whole process of anaesthetisation was easy and the patient gave no cause for anxiety.

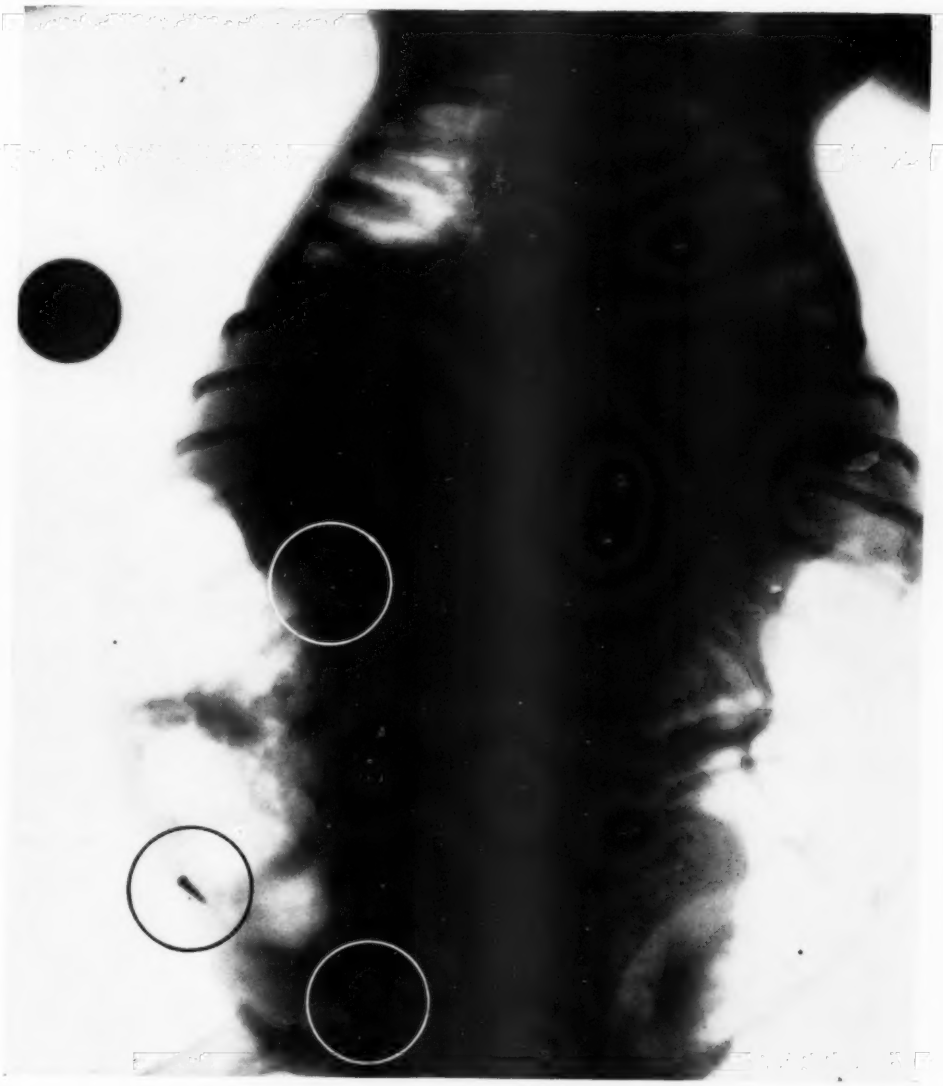
On opening the abdomen a quantity of foul exudate escaped and immediately it became apparent that there existed an extensive peritonitis. Further examination showed the presence of multiple adhesions and perforating tracks involving the whole of the intestinal tract. Many of the adhesions were extremely strong and obviously not of recent development. One large abscess was encountered and this discharged about 2 oz. of evil-smelling pus.

I was relieved when my anaesthetist announced the sudden cessation of respiration.

I reached the conclusion that the tacks had been present in the abdomen for some considerable time, and that they had been "travelling" continuously. The remarkable features of this case were the lack of any single classical sign of peritonitis, the previous good spirits of the patient and the tolerance for the anaesthetic.

I.C.I. Purchase 350-acre Site.—To obtain suitable facilities for their rapidly growing research and administrative organisation, Imperial Chemical (Pharmaceuticals) Ltd. (the pharmaceuticals division of I.C.I.) have purchased 350 acres at Alderley Park, near Manchester. Building work on the site will, it is hoped, begin in 1951, the first laboratories being scheduled for occupation in about three years. The site will be developed in stages, and will probably take some years to complete. Of the total of 350 acres, some 150 consist of woodland and water and will not be disturbed. Of the remaining 200 acres of parkland, only a small proportion will be allocated to buildings. The remainder will be used for grazing cattle which will be kept in connection with the research programme.

A. NOEL ORMROD : "Travelling" Tin-tacks, Chimpanzee



ABSTRACTS

[Clinical Observations on Thiobarbiturate Anaesthesia in Sheep. Titchen, D. A., Steel, J. D., & Hamilton, F. J. (1949.) *Aust. Vet. J.* **25.** 257–261.]

Intravenous anaesthesia was successfully used in 61 lambs, subjects for experimental surgical procedures, pentothal and kemithal being used to approximately the same extent. The lambs were fasted for 24 to 36 hours and water was withheld during the last 12 hours, and 15 to 20 minutes before induction atropine sulphate, 1·3 mg., was injected. Pentothal was used as a 5 per cent. solution and kemithal in a 10 per cent. solution in water administered intravenously.

Both drugs gave a smooth and rapid induction of anaesthesia without struggling, when the injection was made slowly over a period of 30 to 60 seconds. For induction doses from 0·5 to 0·9 gramme of pentothal were employed and 1 to 2 grammes of kemithal, this difference reflecting the equi-activity ratio of the two agents. Anaesthesia was also maintained by additional injections of the drugs, this being done in most cases by keeping the intravenous needle in position, attaching to it a glucose saline infusion apparatus and making the anaesthetic injections with the aid of a two-way tap connected with the needle. The duration of anaesthesia following induction varied, of course, considerably and the additional injections were given as and when required to maintain surgical anaesthesia. It transpired, however, from the case records that the average maintenance dose of pentothal used was 0·2 gramme and that of kemithal 0·37 gramme, which gave anaesthesia periods averaging 26 and 14 minutes respectively.

As is well known, the chief sign of overdosage is apnoea. Apnoea of about 15 seconds' duration is, indeed, the normal sequel of correct induction, but in this series unduly prolonged apnoea occurred in five sheep, four of which had received pentothal. In one instance it was irreversible and the animal could not be resuscitated. Effects of intravenous anaesthesia peculiar to sheep were defaecation during anaesthesia and marked salivation, and a hazard was the regurgitation of ruminal contents, which might cause suffocation. This occurred in one sheep given pentothal and it died in three days from aspiration pneumonia.

Recovery after intravenous anaesthesia was rapid with both drugs but more rapid after kemithal. Thus, after two to three hours' anaesthesia with kemithal complete recovery had taken place within one to three hours, whilst with pentothal recovery periods of from two to six hours were recorded.

The authors conclude their article with the following summary :—

" The advantages associated with these anaesthetics in sheep are, briefly, that they allow (i) rapid, smooth induction without excitement ; (ii) a satisfactorily controlled anaesthesia, and (iii) quiet and rapid post-anaesthetic recovery.

" ' Sodium kemithal ' was preferred in the sheep since its action was shorter, it was less likely to be accompanied by regurgitation, and it caused less respiratory depression. Generally, recovery (to standing) was more rapid after ' sodium kemithal ' than after ' sodium pentothal ' anaesthesia. This last point is significant, since prolonged recumbency in the sheep appears to be associated with uncontrolled regurgitation, which may result in aspiration pneumonia."

J. E.

[An Investigation of the Effect of Gammexane in a Half-bath, on Hard Ticks on Cattle. Beakbane, H. R., & Wilde, J. K. H. (1949.) *J. comp. Path.* **59.** 155–167.]

The paper describes a method of tick control in which cattle were walked through a shallow dipping tank, to destroy the ticks attached to the lower parts of the beast. The ears, polls, tails and perineum were hand dressed by swabbing with the dip wash while the cattle were confined in the draining pens. The dip tank consisted of a concrete trough, 2 feet 9 inches deep, which contained 920 gallons of wash made from a benzene hexachloride suspension type dip (Gammatox 2) at a strength of 50 parts per million gamma isomer.

The efficiency of this dipping procedure was determined by comparing the numbers of ticks and their state of engorgement on dipped and undipped beasts. The nymphs of all species and adults of *Rhipicephalus appendiculatus*, *evertsi* and *Amblyomma variegatum* were selected as the indicators. Dipping was repeated weekly for 22 weeks and then at intervals of five, five and four days for a further ten weeks. Ticks were counted weekly except for the first and last fortnight of the trial when daily counts were made.

The results of this trial showed that two days following the dipping the tick numbers dropped heavily, but thereafter an increase occurred up to the seventh day when the dipping was repeated. During subsequent weeks, however, there was a general decline in the numbers of ticks on the dipped animals until the onset of the rains.

The number of female ticks which were able to complete engorgement on the dipped animals was also noted. It was observed that a proportion of the ticks which attached subsequent to dipping did not complete their engorgement. At no stage of the trial, however, were the dipped animals completely free of ticks, and the rate of survival was greatest in the ears, where the natural greases probably prevented thorough wetting with the acaricide. The change from weekly dipping to the shorter interval resulted in better tick control and no ticks were able to complete engorgement.

The authors recommend the use of this dipping procedure, but suggest the effective depth of the dip be increased to 3 feet 6 inches, and the dip strength to 75 parts per million gamma isomer.

D. W. J.

REPORT

[National Institute for Research in Dairying : Report for Year Ending September 30th, 1948.]

The latest report issued from this well-known Institute covers as usual a very wide range of subjects. The report very sensibly provides abstracts of much of the work that is being carried out, which helps the reader quickly to gain fresh information and to know at the same time whether he wishes to pursue the matter further, either by referring to the published articles or to the individuals at the Institute.

A general review is given of the practical work going on on the farm, much of it associated with certain specialised methods of management of the animals. The remainder of the report is likewise divided into sections, such as those of Physiology, Bacteriology, Chemistry and Physics, Dairy Engineering and Nutrition.

Veterinarians would find this publication easy to read and highly instructive.

N. S. B.

REVIEWS

[Diseases of the Pig. By D. J. ANTHONY, M.R.C.V.S., D.V.S.M. (VICT.), F.R.SAN.I. Third Edition: Pp. xii + 309, with 53 Figures. Baillière, Tindall & Cox, 7 and 8, Henrietta Street, London, W.C.2. Price 17s. 6d.]

We welcome a third—and much improved—edition of this work. The author, in this now excellent book, has covered an extensive field in the husbandry and diseases of the pig. A good concise description of the commoner breeds of pigs is given together with a statement of the requirements of the pork market and bacon trade. Under housing and management the Scandinavian type of house is fully described, with plan. Included in this chapter is a plan and description of a farrowing crate. Details of feeding, including the Lehmann method, are given. The constituents of pig food are elaborated and the accessory food factors are discussed. In a brief chapter the dental formulae are expressed and health, restraint and anaesthetics are mentioned. The greater part of the book, however, deals with scheduled diseases, constitutional disorders, deficiency diseases, local affections and diseases caused by parasites.

In a book of this size the information must needs be condensed. However, the salient points of each disease are clearly indicated and it is no fault of the author's if one is left with the feeling that there is still an extensive field for research in the diseases of the pig.

This book must now be a standard reference book on pig diseases. It will be found useful to the veterinary student and surgeon and to pig breeders and keepers. In the third edition new information has been included and that which is outworn deleted.

* * * * *

[Richtlinien für die Sektion der Haustiere. DOBBERSTEIN, J. 7th Edition. (1950.) Berlin: Richard Schoetz.]

This book first appeared in 1936 as a small students' handbook based on the author's course of *post-mortem* instruction at the Veterinary Faculty of the University of Berlin. The latest edition has the same form but about twice the number of pages and includes a section on the rabbit and a more detailed description of the selection and packing of material for examination at a laboratory. There are also three examples of detailed *post-mortem* reports: each occupies four to six pages of text.

In order to preserve the character of the book as a students' handbook the text has been kept at a minimum and only one method of performing an autopsy is detailed for each animal species. Much of the text is in the form of questions: an answer in the affirmative means that the organ concerned is normal, *e.g.*, Do the lungs collapse when the thorax is opened? Is the pleura glistening, smooth and transparent? In this way the student is trained to look always for the normal condition and to recognise the abnormal by observing deviations from the normal.

There are 35 black and white drawings in the text and four pages of drawings to illustrate the comparative anatomy of various organs in the different species. All the drawings are simple and clear.

This is a useful little book for all who carry out autopsies, whether in the busy rush of practice when there is time for but a brief inspection or in the *post-mortem* room where time allows of a thorough and detailed study of every part. The advantage of an orderly routine in conducting an autopsy is that nothing important is missed. All too often one is tempted to look only at those organs and tissues which are suspected of abnormality because of the clinical history of the case: this is an error to be avoided because it may either fail to disclose important lesions or it may convey an entirely wrong picture of the disease processes responsible. An orderly procedure is essential: the protocols given as examples in Dobberstein's book are a model of what adequate autopsy reports should be. The nearer one can approach to the ideal the greater will be the value of carrying out *post-mortem* examinations.

A centimetre scale is printed on the inside of the front cover of the book—an indication that this is a handbook for use in the *post-mortem* room and not a reference work destined to collect dust on the shelves.

ROYAL COLLEGE OF VETERINARY SURGEONS

MEMBERSHIP EXAMINATIONS, JUNE/JULY, 1950

List of Successful Candidates

London:

FIRST EXAMINATION

Both Subjects

*Ansell, R. H.
Barton, C. R. Q. (C)
Beesley, C. J. (C)
*Brockiesby, D. W.
Buxton, Peter (C)
Cansfield, C. J.
Cawthorne, W. N. (C)
†Hammond, Miss W. M.
*Holmes, J. R.
James, P. H. (C)
Jones, R. H.
Jones, T. H. (C)
Kearns, Michael (C)
Knight, S. A.
*Loving, Charles
McVoy, K. I.
Maynard, H. M. F. (C)
Nelson, G. J.
Roberts, D. H. (C)
Russell, G. H. (B)
Shaib, B. (Liverpool candidate)
Smith, L. C.
Thursby-Pelham, R. H. C.
Vinsen, M. A. (C)
Vinycomb, Miss H. M.
Waller, J. F.

One Subject

Arnold, J. H. S. (C)
Beaumont, S. H.
Beddows, A. C. L. (C)
Booker, J. C.
Brazier, J. F. H.
Cullen, C. S. (C)
Davidson, H. M. (C)
Davies, M. G. (C)
Dubery, B. R.
Gibson, F. E. T. (C)
Greenshields, R. E. (C)
Hampshire, F. J. W. (C)
Hardwick, A. G.
Keeling, M. D. (C)
King, D. K.
Lloyd, J. D. G.
Mears, R. H. (C)
Olorenshaw, P. H. (C)
Pigott, R. C. C.
Stalbow, Michael (C)
Skone, J. B.
Thearle, I. T. C.
Walter, A. J. (B)
White, R. H. (C)

† denotes 1st Class Honours.
* denotes 2nd Class Honours.
(C) denotes credit in Chemistry.
(B) denotes credit in Biology.

SECOND EXAMINATION

One Subject

Anderson, D. C.
Biggs, P. M.
Bloomberg, J. H.
Box, P. G. (A)
Carter, H. E.
Carter, J. B.
Clay, Daniel (A)
Cox, J. A.
Epps, H. B. G.
Evans, J. M.
Fell, B. F. (A)
Freudenthal, Gerd (A)
Gemmell, M. A.
Godfrey, M. J.
Hall, S. A. (A)
Hawkins, Albert
Haxby, D. L.
Hayes, T. J
Hooker, Miss P. M. W.
Hullis, Roy
Hunter, F. E.
Jones, J. E.
Jones, M. D. Berwyn
Jordan, A. N.
Kirkwood, A. D. J.
Keywood, E. K. (A)
Kirby, M. A.
Lane, D. R. (A)
Levens-Ing, Miss P. J.
Mackay, B. H. P.
Malone, J. C.
Martin, H. T. W.
Menard, F. R. J. R
Michael, J R.
Morris, A. D.
Pepper, R. T.
Rabbich, P. D.
Reid, J. H.
Richards, M. A.
Rodgers, M. J.
Russell, G. P. (A)
Samuel, R. M.
Smith, G. R.
Smith, P. L. F.

Steer, R. T. (A)
Swann, A. I.
Tew, N. C.
Thomas, J. L.
Townsend, G. H.
Walker, Miss G. M.
Watson, K. R.
White, R. C.
Wilkins, G. T.

(A) denotes credit in Anatomy and Histology.

THIRD EXAMINATION (Revised Syllabus)

Pathology only

Ahmad, Alauddin
Bailes, Miss J. A.
Ball, Miss J. B.
Bevan, T. G. (Credit)
Bowley, M. I.
Brockis, D. C.
Colegrave, A. J.
Cooper, B. S.
Creyke, G. H.
Cripps, J. H. H.
Crooks, J. L.
Davies, A. J.
Davies, W. E. O.
Dring, J. C.
Edwards, Miss Barbara
Faull, W. B. (Credit)
Felgate, C. A. G.
Fowler, N. G.
Franks, P. W.
Griffith, K. P.
Hawksley, M. B.
Hoe, Miss C. M.
Holcombe, R. B.
Howell, D. G. (Credit)
Hutchings, D. A.
Jenner, F. H.
Johnson, Miss P. L.
Jones, B. V.
Jones, I. I.
Jull, D. J.
Mace, J. W.
Rees, W. H. G.
Rham, G. G. (Credit)
Sainsbury, D. W. B. (Credit)
Shattock, Gordon
Stokes, Simon
Taylor, J. H.
Thomas, W. B.
Thoumine, R. H.
Waters, P. J.
Wickenden, P. F.

Hygiene only

Barker, G. L.
Blyth, A. M.
Chandler, H. M.
Christie, E. J.
Davy, Miss J. D.
Downie, N. F.
Edwards, T. W.
Evans, A. D. G.
George, J. K.
Grattan, D. A. P.
Hoddinott, R. P. F.
McMillan, D. D.
Marston, J. R. T.
Morgan, T. O.
Newbery, M. J. E.
Poland, J. R.
Price, C. J.
Sparrow, W. B. (Credit)
Traynor, D. K.
White, Miss K. S.
Williams, W. D.

FINAL EXAMINATION (Old Syllabus)

Caspari, E. L.
Dexter, M. R.
Glas, G. M.
Lakin, C. N. S.
Luckin, K. G.
Metivier, H. N.
Phillips, J. G.
Robinson, C. E.
Sladden, I. E. T.
Sasibutra, L.
Smith, E. H.
Sutherland, Miss A. M. B.
Spalding, V. T.

FINAL EXAMINATION (Revised Syllabus)

Both Subjects

Ashford, A. O.
Beaumont, J. E.
*Beckett, R. L.
Blampied, N. le Q.
Bradley, G. E.
Croft, Miss P. G.
Davies, D. C. (M)
Davies, J. I.
Garland, J. E.
*Goodwin, R. F. W.
Hall, L. W. (S)
Hannaford, P. J.
Harley, P. J.
Harthoorn, A. M.
Ikin, Peter
Jack, E. J. (M)
Jackson, B. N.
Johnson, Miss A. I.
Jones, D. G. H.
Jones, D. I.
Jones, J. E. T.
Kirkby, W. W.
Macdonald, Ian
Mercer, P. H.
Newing, C. R.
Overton, Michael
Paine, G. D.
Ray, B. R.
Restall, V. R. (S)
Smalley, P. R. (S)
Smith, A. C.
Threlkeld, J. M.
Thurston, George
Wadsworth, Frank
Wheeler, Miss E. C.
Williams, B. M.

One Subject

Bongard, A. L.
Burman, Peter
Heath, J. S.

* denotes 2nd Class Honours.
(M) denotes credit in Medicine.
(S) denotes credit in Surgery.

Edinburgh

FIRST EXAMINATION

Archibald, D. R. N. (C)
Barlow, R. H.
Billings, P. R. H. (C)
Campbell, H. McC. (B)
Chong, Sip N. (C)
*Davidson, H. J.
Ferguson, A. R. (C)
Fraser, Donald
†Fraser, D. G.
Gaunt, J. L. (C)
*Green, W. C.
Griffiths, T. G. G.
Guilor, Miss Mary
*Hands, R. R.
Hunt, D. T.
McAllister, Joseph (C)
McKay, A. F.
Mitcheson, J. A. J. (C)
Nelson, A. M. R.
Reid, G. S. (C)
Scoggins, Miss J. M. T.
Shannon, David (C)
Sharratt, R. K.
Shields, W. G.
Stevenson, R. B.
Stewart, A. F.
Stokoe, W. M.
Thorne, J. P.
Vizard, D. J.
Trainer, P. E.
Walker, A. I. T.
Watson, Michael (C)
*Wetherall, G. D.

† denotes 1st Class Honours.
* denotes 2nd Class Honours.
(C) denotes credit in Chemistry.
(B) denotes credit in Biology.

SECOND EXAMINATION

Adamson, J. D.
*Affleck, Harry
Baird, A. C.
Barker, A. M.
Barnes, Joseph
Blizzard, S. V. A.
Bowie, J. T. (P)
Browne, V. A. D.
Campbell, R. J. (H)
Cartwright, C. F.
Cheminant, D. A. Le (P)
Couttie, M. A.
Crocker, R. W.
Curran, G. D.
Dakin, G. W.
Eddy, Cecil
Fuller, A. T. (P)
Garrett, T. R.
Gourlay, R. N.
Griffiths, B. C. R.
Hamilton, W. W.
Harrington, J. L. (H)
Harrison, A. F. (H)
Jacob, M. B. (P)
Lyon, Miss E. C. M.
Mackie, W. L. (P)
McKinlay, D. I.
MacLeod, Peter (P)
Nelson, J. P.
Norman, T. H. (P)
O'Reilly, K. J.
Proverbs, R. S. (H)
Roberts, A. W.
Ross, I. I.
Scales, Philip
Sellers, R. F.
Smith, V. W. (H)
Stewart, D. L. (P)
Vasey, H. F. (P)
Wells, Miss A. J. (H)

* denotes 2nd Class Honours.
(P) denotes credit in Physiology.
(H) denotes credit in Histology.

THIRD EXAMINATION

Bennett, D. G.
Bonn, J. M.
Bowler, R. K.
Boycott, B. R. (P)
Brown, R. D. (P) (H)
Dawson, R. T.
Duberley, W. R.
Duguid, I. M.
Edgar, J. T. (H)
*Fisher, E. W.
Fleming, Miss H. E.
Forrest, W. T.
Fraser, J. S.
Goodchild, W. M.
Greig, Norman
Hiscock, R. H. (P) (A)
*Kidd, J. N.
Leslie, P. G.
McFerran, W. H.
Mackenzie, C. P.
MacLennan, D. J.
Macqueen, A. C. W. E.
Mallalieu, J. M.
Mindel, J. B.
Mitchell, Douglas
Moore, Duncan
Ormiston, T. T.
Palmer, R. H. F.
Phillips, A. P.
Pette, F. D.
Plummer, G. A.
Robertson, A. G.
*Storrar, J. E.
Sutherland, Miss A. M. (A) (H)
Temiyachol, Prasong
Tremlett, J. G.
Turnbull, A. S.
Turnbull, J. M.
Tweedale, O. L. (H)
Whitelaw, Alexander

* denotes 2nd Class Honours.
(P) denotes credit in Pharmacology.
(A) denotes credit in Anatomy.
(H) denotes credit in Hygiene.

FOURTH EXAMINATION

Adamson, I. W.
Anderson, R. A.
Ash, R. W.
Barr, Macleod
Borthwick, Ramsay
Brown, A. J.
Brown, T. C.
*Burrows, Robert
Campbell, E. A.
Caufield, Wm.
Cochran, F. R.
Davies, J. G.

Duguid, H. I.
Earnshaw, D. G. (Paras)
Evans, T. D.
Falconer, John
Fraser, C. D.
Fraser, Gordon
*Gitter, M.
Gonzales, F. O.
Gruchy, C. L.
Hallam, C. W.
Huck, R. A.
Hurrell, A. D.
Jackson, Mrs. E. K. M.
McCallum, Gordon
Macaulay, Malcolm
Mackay, J. M. K.
Maclennan, Walter
Martin, R. D.
Mitchell, Miss H. M.
Morris, Miss E. K.
Morton, K. E. (Path)
Newsam, I. D. B.
Owen-Pawson, D. D.
Penman, J. H.
Rankin, J. E. F. (Path)
Rashid, A. B.
Richardson, Robert
Scrivens, G. W.
Skowronski, Z. Y. S.
Sloan, W. H.
Smith, A. G.
Thompson, B. R. (Paras)
Trought, V. P. T.
Young, D. W.

* denotes 2nd Class Honours.
(Path) denotes credit in Pathology.
(Paras) denotes credit in Parasitology.

(To be continued)

QUESTIONS IN PARLIAMENT

Livestock Grading

Mr. Higgs (July 3rd) asked the Minister of Food whether, with a view to meeting the complaints of some farmers about the unfair grading of cattle at the only collecting centres available to them, he will take steps under Section 3 of the Livestock (Sales) Order, 1949, to extend the present areas from which livestock may be collected from any collecting centre, so that they overlap to some extent and thus provide the farmer with a choice of more than one centre.

Mr. F. Willey: This would not be a satisfactory method of dealing with complaints about livestock grading. The results of the work of the grading panels are examined by my Department and, in addition, the livestock inspectors supervise this work on their visits to the collecting centres. If the hon. Member would let me have details of any complaints about grading I will have enquiries made.

. . . . .

Dog Licences, Durham

Mr. Murray (July 4th) asked the Chancellor of the Exchequer whether he is aware of the dissatisfaction in the County of Durham about the present method of taking out dog licences; that many people have received intimation that unless they pay the mitigated penalties in the notice within ten days, a summons will be taken out against them; and if he will consider in future giving due notice to owners of dogs when their licence is due similar to the method adopted for wireless licence and income tax.

Sir S. Cripps: Certain representations have been received on this matter from persons in the county of Durham, but the action taken by the county council is within their discretion and I am not in a position to intervene.

. . . . .

Human Tuberculosis (Treatment)

Dr. Hill (July 6th) asked the Minister of Health how many local health authorities are in possession of adequate supplies of B.C.G.; and whether he is satisfied that this method of prevention is being made available on an adequate scale and as rapidly as the paramount necessity of preventing tuberculosis demands.

Mr. Bevan: One hundred and sixteen out of 145 authorities in England and Wales have so far had arrangements approved for B.C.G. vaccination at the discretion of chest physicians. They receive the vaccine as they need it, since it cannot be stored. As to the second part of the Question, I would refer the hon. Member to the reply I gave to the hon. Member for Wokingham (Mr. Remnant) on June 15th.

Dr. Hill asked the Minister of Health whether he will instruct regional hospital boards to arrange for the home treatment of tuberculosis patients, for whom there are no sanatorium beds vacant, by making available to them in their homes the services of chest specialists, portable X-ray facilities and any other facilities necessary for adequate and continuous treatment.

Mr. Bevan: It is part of the normal work of the boards' chest specialists, with the resources of the hospital service available to them, to take part in the home treatment of tuberculosis patients.

Dr. Hill: Is the right hon. Gentleman aware that only in relatively few areas are the resources of tuberculosis services made available in the homes, and will he, bearing in mind that tuberculosis is five times as common among contacts as among the population, do his utmost to relieve what is an urgent national situation, not only for the sufferers from tuberculosis, but for their families as contacts?

Mr. Bevan: Yes, Sir, I am very well aware of what the hon. Member has stated. Of course, it must always be borne in mind in this very grave matter that the efforts that the service is able to make result in a fall in the rates of mortality from tuberculosis. The hon. Member will find in the next few weeks that instructions will be issued dealing with those points.

Mr. Drayson: Will the right hon. Gentleman remember that one of the greatest contributions he can make towards solving this problem is to get on with the provision of houses?

Mr. Bevan: That is the case—and also houses for those who suffer from overcrowding, and not only for those who have overcrowded accounts at the banks.

Mr. Snow: Would my right hon. Friend consider circularising to all local authorities a copy of the report of the Medical Officer of Health for Portsmouth last year, which gave information concerning control experiments with the use of B.C.G. vaccine?

Mr. Bevan: I should like to see the report. I am quite sure that if it is of use it is already known to medical officers of health elsewhere, but I will see whether its circulation is necessary.

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Food Poisoning

Earl Winterton (July 6th) asked the Minister of Health if, in view of the number of cases of food poisoning that have arisen lately and the fact that official expert opinion has on more than one occasion drawn attention to the insanitary methods of food handling in this country, he will issue a statement on the subject to be sent to all catering authorities.

Mr. Bevan: This is a complex problem, and I propose to await the report of the Working Party on Hygiene in the Catering Industry before considering further action.

Earl Winterton: Is the right hon. Gentleman aware that the standard is unfortunately deplorably lower here than, for example, in Scandinavian countries, and that I myself have seen the catering staff of this House hand out pieces of sugar and bread with their hands—a thing which would not be tolerated in Scandinavian countries or in the United States?

Mr. Bevan: I think the standards in the use of food are far lower than they ought to be. I hope that when we get this report we shall be able to take remedial action.

Mr. Somerville Hastings: In view of the very serious urgency of this matter, will my right hon. Friend consider not waiting, but issuing model by-laws now?

Mr. Bevan: I think it would be far better to issue by-laws that are likely to be practicable and useful than to act precipitantly and merely issue edicts that are not likely to be of much use. I would rather have the technical advice first of all, and issue the by-laws afterwards.

Sir Ralph Glyn: Will the right hon. Gentleman bear in mind that when the paper shortage necessitated the cessation of wrapping bread it was then stated that when paper became more plentiful that would be one of the first things to be done again?

Mr. Bevan: Yes, but I think that that is not a matter for by-laws but of usage.

UNITED KINGDOM AGRICULTURAL REPRESENTATION IN U.S.A. AND CANADA

Professor R. G. Baskett, Chief Scientific Officer of the Ministry of Agriculture for Northern Ireland, has been appointed to the post of Agricultural Attaché in Washington, in place of Mr. A. N. Duckham, who will be returning home this month.

Mr. W. F. Darke, at present Secretary (Agriculture) in the office of the United Kingdom High Commissioner in Ottawa, has been appointed Agricultural Adviser to the High Commissioner and will no longer act as Assistant to the Agricultural Attaché in Washington.

[It will be recalled that Professor Baskett, who was formerly Dean of the Faculty of Agriculture, Queen's University, Belfast, contributed a masterly address on "The Chemistry of Grassland" to the Conference on Grassland and Animal Health held by the N.V.M.A. in London in the autumn of 1948]

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Weekly Wisdom

Our business is not to produce great men—they will look after themselves—but a great society of men and women free from economic anxiety and alert to the contemporary situation in terms of service and the good things of life.—D. R. Hardman, Parliamentary Secretary, Ministry of Education.

NOTES AND NEWS

Diary of Events

July 21st.—Meeting of the Association of Veterinary Teachers and Research Workers (Southern Region), at the Royal Veterinary College, Camden Town, N.W.1, 2 p.m.

July 21st.—Summer Meeting of the Royal Counties Division, N.V.M.A., at Whipsnade Park Zoo, 11.15 a.m.

July 21st.—Meeting of the Biochemical Society, in the Department of Biochemistry, University New Buildings, Teviot Place, Edinburgh, 11 a.m.

July 28th.—Summer Meeting of the Yorkshire Division, N.V.M.A., at Burley-in-Wharfedale (Cattle Breeding Station, Colston House), 2.30 p.m.

Aug. 2nd.—Summer Meeting of the Eastern Counties Division, N.V.M.A., at Cambridge (Department of Animal Pathology), 11.30 a.m.

Aug. 3rd.—Special Meeting of Technical Development Committee, N.V.M.A. to discuss report on Artificial Insemination, at 36, Gordon Square, London, W.C.1, 11 a.m.

Sept. 3rd-8th.—Sixty-eighth Annual Meeting and Congress of the National Veterinary Medical Association, at Cardiff.

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PERSONAL

Births.—Frappell.—On June 30th, 1950, at Sunnyside, Cheltenham, to Doreen (*née* Goulding) wife of John P. Frappell, M.R.C.V.S., of Longford, Gloucester, a daughter.

Howat.—On July 5th, 1950, at Patrick Stead Hospital, Halesworth, to Hilda (*née* Thompson), wife of G. B. B. Howat, a son.

. . . . . .

Marriage.—Coward—Dallyn.—On July 1st, 1950, at Swimbridge Church, Barnstaple, Devon, Thomas Gordon Coward, M.R.C.V.S., only son of Mr. and Mrs. H. J. Coward, of Barnstaple, to Elsie Louisa, third daughter of Mr. and Mrs. E. J. Dallyn, of Barnstaple.

. . . . . .

Knights of the Round Table.—We are interested to learn that that distinguished body, the Knights of the Round Table, have honoured Dr. W. M. Scott, F.R.C.V.S., of Bridgwater, by appointing him a Knight Councillor. Dr. Scott also holds the office of Knight Constable (Master of the Horse).

. . . . . .

Conferment of Degrees

Professor Blakemore Honoured.

In accordance with the intimation of intention made in our issue of May 20th, at the Congregation of the Senate of Liverpool University held on July 7th, the honorary degree of Doctor of Veterinary Science was conferred upon Professor Frederick Blakemore, M.R.C.V.S., D.V.S.M. (VICT.), Professor of Veterinary Medicine and Director of Veterinary Studies in the University of Bristol.

At a Congregation of the Senate on July 8th, the degree of Ph.D. of the University of Reading was conferred upon Mr. C. A. E. Briggs, M.R.C.V.S., of 75, South Street, Reading. The title of Mr. Briggs' thesis was:—"The significance of the 'K' Antigens of *Bacterium coli* in relation to Colibacillosis in Calves, and observations on the nature of the Protective Properties of Colostrum." Dr. Briggs is leaving the Research Institute in Animal Pathology of the Royal Veterinary College in September to join the Staff of the National Institute for Research in Dairying, of the University of Reading.

At Edinburgh University graduation ceremony held on July 6th the degree of Ph.D. in the Faculty of Science was conferred on Mr. Gilbert Bowie Young, M.R.C.V.S., the title of whose thesis was "A Study of Genotype Environment Interaction in Mice, and its Relationship to Animal Breeding." In the Department of Veterinary Science, the degree B.Sc. was obtained by the following:—

Michael Cawood Butler, Francis George Clegg, Charles Routledge Coid, Thomas Stephen Dean, James Brown Morton Gellatly, William Wylie Chapman Gibson, John Maelor Gittins, William Currie Douglas Hare, Anne Hazel Jennings, Elfed James Jones, Sheila Elizabeth Logsdon, John M'Laughlin, Harold Martin, Kenneth Murchie, Gordon Lindow Robson, William Frederick Sharp, Eric Howarth Shortridge, Peter Kay Thompson, John Duxbury Turton, Graham Wight.

HUMAN TUBERCULOSIS IN SCOTLAND

Need for Emergency Drive

The joint committee of the Central Consultants' and Specialists' Committee in Scotland and the Tuberculosis Society of Scotland, in a report printed in last week's issue of the *British Medical Journal*, state that, while it was set up to deal primarily with the development of a tuberculosis service, it found that it could not escape discussing how the present crisis could be overcome. The fact that tuberculosis is a more serious problem in Scotland than elsewhere in Britain lends special weight to the report. The committee welcomes the return of tuberculosis to the "wide fold of general medicine" and agrees that the change effected by the Health Act whereby the administration of the major part of the tuberculosis service is carried out by the regional hospital boards is a good step.

It is felt that the provision of a mass radiography service should be a responsibility of the regional hospital boards, and that "the work of diagnosis and treatment and of after-care and prevention are in the modern view so closely related that no useful purpose would be served by requiring the tuberculosis physician and his staff to spend prescribed portions of their time in the service of the regional hospital board on the one hand and the local health authority on the other."

The committee wants to see the tuberculosis service develop into a full "chest service," working in close relationship with the general hospital and specialist service. Details for training are set out and the committee gives figures for bed requirements and establishments. An appropriate basis for bed requirements for tuberculosis patients is estimated to be between 250 and 350 for a population of 200,000.

It is a consideration of the implications of such a figure that leads to the second part of the report dealing with the present crisis. The committee records "the strong impression . . . that there is lacking any general appreciation of the urgency of the problem and of the need for a real emergency drive to deal with it." It argues for a "crisis expansion" of beds similar to that provided by the Emergency Medical Service at the outbreak of the last war. For Scotland, it is estimated, some 1,350 additional beds would meet the present need. As a contribution to prevention, the report urges that energetic measures should be taken by central and local authorities to make available suitable buildings for the reception and care of children from homes in which tuberculosis has appeared.

* * * * *

TUBERCULOSIS (ATTESTED HERDS) SCHEME

Test Certificates for Individual Animals

A considerable number of applications are received (say the Ministry of Agriculture in a recent announcement) from owners of attested herds for tuberculin test certificates in respect of individual animals. Many relate to animals to be moved on permit to attested markets. Since such a permit would not be granted if at the last test of the herd a reactor was found, the permit itself provides as good a guarantee of the freedom of the animal from tuberculosis as a test certificate. Moreover, the issue of numerous test certificates involves considerable clerical labour. Accordingly it has been decided to discontinue forthwith the supply of test certificates in respect of animals moved on permit to an attested market or from a farm dispersal sale.

Test certificates will continue to be supplied where they are required for animals for export or for other essential purpose. In order to avoid unnecessary correspondence and delay, applications by owners of attested herds for test certificates should in future state clearly the particular purpose for which the certificates are desired.

* * * * *

MEAT LOSS £57½ MILLION

The Trading and Profit and Loss Account of the Meat and Livestock Division of the Ministry of Food for the year ended March 31st, 1949, shows a loss of £57,520,653. This is revealed in the Accounts and Balance Sheets of Trading conducted by Government Departments and Report of the Auditor General published by H.M. Stationery Office. Meat purchases during the year amounted to £194 million made up of £84 million abroad and £110 million home production. Other supplies absorbed amounted to £27 million. This meat was sold for a net return of £179 million. The slaughtering expenses amounted to £2,599,701, storage and warehousing £2,849,931, insurance £23,232, carriage £7,059,959, commission and expenses of agents and distributors £6,255,887, depreciation on plant £5,112, general overheads £3,978,797, interest on Exchequer advances £1,626,271, miscellaneous £184,187. There was a surplus on claims, stock coverages, etc., of £56,594 and £166,261 was realised on the sale of canned meat boxes.—*Meat Trades Journal.*

ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

SWINE FEVER:

Dorset.—Rose Cottage, Horton Heath, Horton, Wimborne, Dorset (July 5th); East Chickerell Court, Chickerell, Dorset (July 7th).

Hants.—Hillsboro, High Town, Ringwood (July 8th).

Midlothian.—Hill View, Gilmerton, Edinburgh (July 7th).

Somerset.—Physicwell, Stoke Trister, Wincanton, Somerset (July 6th); Lower Farm, Lottisham, Glastonbury (July 10th).

* * * * *

Scheme for the Control of Diseases of Dairy Cattle

STATEMENT SHOWING THE NUMBER OF UNDERTAKINGS NOTIFIED TO THE MINISTRY OF AGRICULTURE DURING THE QUARTER ENDED JUNE 30TH, 1950

County	Undertakings Notified		Total Undertakings	Number of Cattle	
	During Quarter	Previously		Cows	Heifers
ENGLAND					
Bedford	—	1	1	11	10
Berks	1	18	19	540	421
Bucks	—	3	3	88	74
Cambridge	—	—	—	—	—
Cheshire	13	57	70	2,694	1,156
Cornwall	—	—	—	—	—
Cumberland	—	2	2	96	90
Derby	11	114	125	3,494	1,938
Devon	—	69	69	763	461
Dorset	—	—	—	—	—
Durham	4	76	80	2,265	1,039
Essex	3	60	63	3,825	2,729
Gloucester	4	13	17	746	783
Hampshire	4	43	47	1,652	1,650
Hereford	—	3	3	161	106
Hertford	1	18	19	681	467
Hunts	—	—	—	—	—
Isle of Ely	—	—	—	—	—
Isle of Wight	—	—	—	—	—
Kent	—	32	32	824	539
Lancs	1	20	21	705	334
Leics	1	38	39	1,099	997
Lincs (Holland)	—	—	—	—	—
Lincs (Kesteven)	—	5	5	76	66
Lincs (Lindsey)	2	1	3	63	71
Middlesex	—	2	2	33	14
Norfolk	—	18	18	724	497
Northants	—	10	10	200	320
Northumberland	1	21	22	708	664
Notts	3	72	75	1,993	910
Oxford	—	2	2	77	110
Rutland	—	—	—	—	—
Salop	2	29	31	6,950	671
Soke of Peterborough	—	—	—	—	—
Somerset	2	50	52	1,633	1,000
Staffs	5	52	57	1,865	1,029
Suffolk (East)	1	6	7	95	142
Suffolk (West)	—	10	10	382	288
Surrey	1	20	21	759	406
Sussex (East)	—	18	18	225	376
Sussex (West)	1	15	16	402	462
Warwick	2	45	47	1,286	128
Westmorland	—	3	3	47	23
Wilts	12	2	14	796	631
Worcester	2	66	68	1,474	788
Yorks (E.R.)	1	19	20	308	302
Yorks (N.R.)	—	28	28	492	399
Yorks (W.R.)	1	46	47	1,468	500
TOTAL, ENGLAND	79	1,107	1,186	41,700	23,110
WALES					
Anglesey	—	6	6	104	46
Brecon	—	—	—	—	—
Caernarvon	—	9	9	135	72
Cardigan	2	13	15	387	247
Carmarthen	4	35	39	742	395
Denbigh	—	6	6	138	58
Flint	—	15	15	329	171
Glamorgan	1	23	24	409	220
Merioneth	—	—	—	—	—
Monmouth	1	5	6	138	84
Montgomery	3	1	4	59	28
Pembroke	—	5	5	181	197
Radnor	—	1	1	5	1
TOTAL, WALES	11	119	130	2,618	1,519
TOTAL, ENGLAND AND WALES	90	1,226	1,316	45,318	24,629

Notes.—(1) Operative periods of undertakings: 1 year, 29); 2 years, 62; 3 years, 964. (2) Undertakings renewed for further periods: 1 year, 19; 2 years, —; 3 years, 13. (3) Undertakings not renewed at end of, or cancelled during, operative periods: 134. (4) The figures showing the number of undertakings notified during the quarter relate to entirely fresh undertakings and do not include undertakings renewed for further periods. Undertakings which have been cancelled or not renewed are not included in the figures for previous notifications.

County	Undertakings Notified		Total Undertakings in Force		
	During Quarter ending 30.6.50	Previously	Number	Number of Cattle	
				Cows	Heifers
SCOTLAND					
Aberdeen	—	12	12	597	363
Angus	2	7	9	566	314
Argyll	—	—	—	—	—
Ayr	—	2	2	70	32
Banff	—	—	—	—	—
Berwick	—	1	1	24	11
Bute	—	—	—	—	—
Caithness	—	—	—	—	—
Clackmannan	—	—	—	—	—
Dumfries	—	1	1	70	50
Dunbarton	—	1	1	12	10
East Lothian	—	—	—	—	—
Fife	—	16	16	611	442
Inverness	—	1	1	52	35
Kincardine	—	1	1	40	50
Kinross	—	2	2	47	28
Kirkcudbright	—	1	1	450	550
Lanark	—	1	1	36	22
Midlothian	—	—	—	—	—
Moray	—	—	—	—	—
Nairn	—	—	—	—	—
Orkney	—	—	—	—	—
Peebles	—	—	—	—	—
Perth	—	4	4	109	74
Renfrew	—	1	1	31	34
Ross-shire	—	1	1	85	10
Roxburgh	—	—	—	—	—
Selkirk	—	—	—	—	—
Stirling	—	3	3	137	140
Sutherland	2	—	2	36	35
West Lothian	—	1	1	17	29
Wigtown	—	—	—	—	—
Zetland	—	—	—	—	—
TOTAL	4	56	60	2,990	2,229

Notes.—(1) Duration of undertakings: 1 year, 15; 2 years, Nil; 3 years, 45. (2) Undertakings renewed for a further period: 1 year, 2; 2 years, Nil; 3 years, Nil. (Included in the second column of the statement.) (3) Undertakings expired and not renewed: 6. (Not included in the second column of the statement.)

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FOWL PEST OUTBREAK IN HOLLAND

Writing in the July 5th issue of that paper a correspondent to *The Times* says: "A severe epidemic of fowl pest has afflicted the poultry farms round Barneveld, the centre of the Dutch poultry industry, during the past few weeks, and it is stated that for the next six weeks there will be no eggs for either the home or export market. When eggs again become available it is feared that both the home and export prices will have to be raised.

"Many poultry farmers are being ruined, and both the local and central government authorities are giving all the technical aid possible. Between 30,000 and 40,000 fowls have been destroyed in the hope of preventing a further spread of the disease, but this has not yet brought an end to the outbreak. Many of the runs, especially those of wood, which cost from £50 to £60 each, have had to be burnt as the only means of preventing the spread of infection.

"The affected area has been isolated and, under the direction of the veterinary services of the Ministry of Agriculture, assisted by various trade and scientific organisations, inoculation is being tried, but it is not yet certain whether it can be generally applied. Should this prove worth while several million fowls will be treated. At the Government serum station in Rotterdam bottles of serum are ready for despatch to the farmers should the committee engaged in research decide on inoculation."

* * * * *

INVESTIGATION AND CONTROL OF FOOT-AND-MOUTH DISEASE

Following the publication of the note under the above heading in our issue of June 10th, a correspondent contributes the following:

Since a report emanating from an agency in Paris has appeared in the Press about a joint meeting on foot-and-mouth disease of the Office International des Epizooties and the Food and Agricultural Organisation of the United Nations in Paris May 15th to 20th, 1950, it may be that you would wish to have relative information as accurately as possible especially with regard to the suggestion for the establishment of an international centre for the examination, immunological classification and maintenance of strains of the virus of foot-and-mouth disease.

Delegates and observers from 32 countries attended the meeting. The following papers were presented:—

1. Observations on Immunological and other Characteristics of

Strains of the Virus of Foot-and-Mouth Disease with Special Reference to Experimental Methods, Epizootiology and Methods of Control including Vaccination, by Ian A. Galloway (British Delegate),

2. Artificial Cultivation of Foot-and-Mouth Disease Virus for Vaccine Production, by H. S. Frenkel (Dutch Delegate), and reports on the problem of foot-and-mouth disease as affecting their territories were submitted by S. Datta, India and the Government of Mexico.

During the presentation of his paper, Dr. Galloway (Great Britain) informed the meeting that he had been authorised to state that in the event of the meeting recommending the setting up of an international centre for the examination, immunological classification and maintenance of the strains of the virus of foot-and-mouth disease (a question that had been mooted by the delegate from the Netherlands at a similar meeting held in London in August, 1949, supported by a proposal that the centre should be at Pirbright) his Government is prepared to offer the facilities available at the Research Institute of the British Foot-and-Mouth Disease Research Committee at Pirbright of which Dr. Galloway is Director with the reservation that funds be made available from an international source for the necessary expansion of existing facilities and increased maintenance costs to cope with this work.

Arising out of the discussion which ensued the following recommendation proposed by the delegate from the Netherlands and seconded by the delegate from the U.S.A. was then passed:—

This meeting recommends that

1. An international centre be established for the examination, immunological classification and maintenance of strains of the virus of foot-and-mouth disease.

2. This centre should be located at the Research Institute of the British Foot-and-Mouth Disease Research Committee at Pirbright and

3. that funds from an international source be made available to assist in the necessary expansion and maintenance of this centre.

It is envisaged that this centre would be a centre of reference and for storage and maintenance of stock type strains with the necessary linkages with other centres engaged on similar work or on the production of foot-and-mouth vaccine. In addition, it would be available for the typing of strains of viruses occurring in countries which for the time being have no adequate facilities for such work.

The meeting noted and endorsed the suggestion made that in certain territories epizootiological surveys of the disease should be made, particularly prior to initiation of any control programme, and recommended that such surveys be co-ordinated with the work of the proposed international centre.

. . . . . .

N.B.—Incidentally the consolidation that is envisaged is somewhat similar to that which was effected for dealing with the problem of strains of the virus of influenza under the auspices of the World Health Organisation of the United Nations with an international centre at the National Institute for Medical Research, London. However, in view of the more complex nature of the problem which involves in addition the use of large as well as small experimental animals, the organisation will have to be much more elaborate and comprehensive in the case of foot-and-mouth disease.

* * * * *

MILK RECORDING PROGRESS IN SCOTLAND

Progress in the practice of official milk recording of individual cows suggests that by the end of this year 2,600 herds and a total of 130,000 cows will be under test, says the report of the Scottish Milk Records Association, submitted to the annual meeting in Glasgow.

The present number of recorded cows in equal to 25·3 of the total in the milk-selling herds of Scotland, which number almost 9,000, with 289,493 individual cows. Clackmannan, with only 33 such herds, has 49·5 per cent. recorded. But the county with easily the largest number is Ayr, with 14,861 head, representing 30·2 per cent. of her total cows. Wigtown, Dumfries, Kirkcudbright and Lanark are the counties that follow in numerical order.

On a breed basis the present roll of membership represents the following: Ayrshire (fully pedigree and grading-up), 1,315; British Friesian, 101. Guernsey, 6; Jersey, 18; Red Poll, 6; Dairy Shorthorn, 3: Non-pedigree and mixed, 884,; a total of 2,333 herds.

ARTIFICIAL INSEMINATION

The figures for the year ended March 31st, 1950, show once again the rapid growth being made in the development of A.I. by the Milk Marketing Board. During the year under review the total number of cows inseminated was 431,349 as against 255,567 in the previous year; whilst the overall conception rate of all centres was 64·0 per cent. for 1949-50 as compared with 63·7 per cent. for 1948-49. The Carmarthen centre had 53,349 cows, and there were three centres—Beccles, Cheswardine, and Tarporley—with more than 30,000 each. The centre showing the largest increase compared with the previous year was Praze with 24,152 cows in 1949-50 as compared with 9,769 in 1949-50.

The distribution of inseminations by breed was as follows:—

Breed	*1st Insemination*	*Per cent. Total*
Friesian	169,533	39·3
Shorthorn	89,671	20·8
Ayrshire	55,068	12·8
*Colour-marking beef	52,459	12·1
Guernsey	33,398	7·7
Jersey	12,559	2·9
North Devon	8,879	2·0
Red Poll	3,692	·9
South Devon	3,374	·8
Welsh Black	1,951	·5
Lincoln Red	786	·2

*Hereford 10·8 per cent. Aberdeen Angus 1·3 per cent.

* * * * *

THE INTERNATIONAL PHARMACOPOEIA

With the return of Dr. C. H. Hampshire, C.M.G., from the United States of America, where he addressed a number of functions of different pharmaceutical organisations, it is possible (states the *Pharmaceutical Journal*, in its issue of June 10th) to give a little further information regarding the new International Pharmacopoeia. In his address to the U.S. Pharmacopoeial Convention, Dr. Hampshire, who is Chairman of the W.H.O. Committee on the Unification of Pharmacopoeias, pointed out that the International Pharmacopoeia aimed at providing "a solid core of carefully assembled and checked material around which the pharmacopoeia authorities of any country can build the national book of standards."

The national pharmacopoeia of the country, he said, was the essential instrument, for on its authority depended the success with which selection of material and standards were adapted to conform with the practice and needs of the nation. Dr. Hampshire fully endorsed the policy of maintaining strong national pharmacopoeias. The International Pharmacopoeia could not replace them, but, speaking for those who had worked on the project and who believed in its possibilities of usefulness, he hoped that national pharmacopoeia authorities would always give consideration to it and would make every endeavour to maintain its uniformity with other national pharmacopoeias. Aceptance in general terms with reservations on detail would be an encouragement to those who had faith in the benefits that unification of pharmacopoeias would bring.

Dr. Hampshire said that publication of the French and English editions was expected towards the end of 1950, and that a Spanish edition would be issued later.

* * * * *

Worcester Smallholdings Committee has decided to buy ten flame guns at a cost of £100 to destroy carcases of animals that have died from anthrax.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the N.V.M.A.

SULPHA DRUG TREATMENT FOR CAECAL COCCIDIOSIS

Sir,—On returning from the U.S.A. early last year I brought back with me some sulphaquinoxaline, which was incorporated experimentally in a batch of our baby chick feeds, sufficient to feed some 2,000 chicks from day-old to six weeks of age.

The sulphaquinoxaline was incorporated at a dilution of 1 in 3,584. It was used at that season of the year when hatcheries normally expect caecal coccidiosis, and it proved highly effective in preventing the disease, which did break out in a severe form in

chicks reared alongside those receiving the medicated feed. This was not a controlled experiment, it was a practical feeding test, and one which convinced the hatchery proprietor concerned that if sulphaquinoxaline were available, it could certainly be used as a practical aid to control caecal coccidiosis.

The report by S. B. Kendall, in the issue of *The Veterinary Record* of July 1st, showing that sulphaquinoxaline proved markedly superior to "sulphamezathine" is of great interest, but there is one possible weakness in the experiments recorded, namely, that no reference is given to the quantity of medicated fluid drunk by the affected chicks. We have received recently from the field several complaints that sulpha drugs have been ineffective in controlling caecal coccidiosis, when diluted in the manner recommended by the manufacturers.

We, ourselves, had one such experience quite recently, but quickly discovered that the apparent ineffectiveness of the drug was due to the fact that the chicks were not drinking the medicated fluid freely. We substituted "avisol" for the original fluid and the chicks drank this much more freely. We therefore conducted a simple water consumption test, each pen containing 25 healthy chicks aged 17 days. The result was as follows:—

Treatment	Water consumption (pints) 8.30 a.m.-5 p.m. 14.6.50	5 p.m.-5 p.m. 14/15.6.50	5 p.m.-5 p.m. 15/16.6.50	Total water consumption 2½ days (pints)
Avisol ...	—	1¼	2¾	4¼
Sulphamezathine —		¾	1	1¾
Water ...	1	2	2	5
Water ...	1¼	2½	2	5¾

Avisol used at 50 c.c. per gallon of water, sulphamezathine (16%) 2 oz. per gallon of water.

It will be seen that the chicks refused to drink the medicated fluids during most of the first day, and when the test was concluded on the third day the chicks receiving sulphamezathine had drunk not more than 35 per cent. compared with the controls. It will be seen, too, that avisol was much more palatable and I think one can rest assured that if chicks in the field are finding sulpha drugs unpalatable when mixed with their drinking water, this alone will account for a number of apparent failures. Farmers who have experienced this difficulty have diluted the sulphamezathine so as to render the final product of a 0·1 per cent. concentration, and although this material may still prove highly effective, one would like to enquire why the original strength is now proving unpalatable on some occasions.

Finally, when the Ministry of Food were approached recently concerning the possibility of incorporating sulphaquinoxaline in poultry feeding-stuffs as a preventive against caecal coccidiosis they officially replied that "this matter has been submitted to our Agricultural Advisers and the advice they give is that the use of this particular drug in the manner suggested should not be authorised."

Yours faithfully,

The British Oil & Cake Mills, Ltd., W. P. Blount.
Poultry Advisory Service,
2, Kingscote Street, London, E.C.4.

July 3rd, 1950.

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VIBRIO FOETUS AND INFERTILITY IN CATTLE

Sir,—We believe that infection with *Vibrio foetus* is becoming more prevalent among cattle in Great Britain, or at least that it is being more frequently diagnosed. Being truly venereal this infection offers the opportunity for effective control and it seems to us that energetic measures should be taken now before the infection becomes any more widespread than it probably already is.

In the meantime, in the absence of an official scheme for control and notification, a veterinary surgeon can still do a great deal by moral pressure on his client to stop the spread from herd to herd; it is for this reason that one of us has made a major effort to record his clinical impressions for publication elsewhere in this journal.*

Yours faithfully,

Richard W. Hartley.
Charles A. Foden.
7, The Square,
Petersfield, Hants.

July 4th, 1950.

* The contribution to which our correspondents refer will appear in an early issue.—*Editor.*

ATTESTATION: IS IT A GOOD POLICY?

Sir,—In *The Veterinary Record* of July 1st, 1950, you publish a letter from Mr. J. W. Rainey, whom I should like to thank for a correct interpretation of the figures given in my first letter. Mr. Rainey doubts the importance of "tuberculin"—by this I mean the excretion or secretion or both of the bovine bacillus and produced *in vivo* not *in vitro*. I have so strong a belief in this that I feel that if infected human beings were carefully sensitised and bovine tuberculin injected subcutaneously it would be of great help in treatment, but this, of course, I have no means of proving. The tuberculin would be in the form of serum from infected cattle. I believe that tuberculin produced *in vitro* would have an altered character, but that it might suffice. I rather stress the bovine type tuberculin, because the bovine is more virulent than the human type of organism and, therefore, serum containing such tuberculin would have a higher antibody value than human tuberculin—which of necessity would be produced *in vitro*.

Milk ingested from cows having tuberculous lesions would also contain such tuberculin and although it is possible that some will be destroyed by the gastric juice, some will be absorbed, and I think that the figures given for Scotland and Denmark as opposed to England demonstrate the lack of tuberculin in the former and its presence in the latter.

In further reply to Mr. F. B. Edwards, the following figures have arrived from Guernsey for which I have to thank the Medical Officer of Health:—

Guernsey—Population 39,000.
1920-1935—Figures incomplete.
1940-1945—German occupation.

Year	*Number of Notifications*	*Year*	*Number of Notifications*
1936	53	1943	39
1937	48	1944	45
1938	28	1945	*
1939	21	1946	47
1940	29	1947	62
1941	30	1948	45
1942	32	1949	34

* Large number of cases from England reason for no details given.

The average of notifications for years 1936-1939 is 37·5.
The average of notifications for years 1946-1949 is 47.

Yours faithfully,

66, Coningsby Road, High Wycombe. L. Pitcher

July 5th, 1950.

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
June 1st to 15th 1950	14	1	8	—	—	5
Corresponding period in—						
1949	12	—	35	—	1	—
1948	3	—	9	—	—	1
1947	5	9	117	—	1	1
Jan. 1st to June 15th, 1950	199	14	81	—	19	8
Corresponding period in—						
1949	96	11	249	—	28	5
1948	47	—	190	1	26	17
1947	44	92	450	1	23	15

Note.—The figures for the current year are approximate only

* Excluding outbreaks in Army Horses.